

## Claims

1 1. A method for processing a data set, comprising the steps of:  
2 providing a data set having a first length;  
3 formatting a key to the first length;  
4 setting pre-determined bits of the formatted key to zero to yield a masked  
5 key; and  
6 forming an exclusive-OR result of the data set with the masked key to  
7 yield an encrypted data set.

1 2. The method of claim 1, further comprising the step of replacing the data set  
2 with the encrypted data set.

1 3. The method of claim 1, wherein the first length comprises four high order bits  
2 and four low order bits.

1 4. The method of claim 3, wherein the forming step yields an encrypted data set in  
2 which only the four low order bits are encrypted.

1 5. The method of claim 3, wherein the setting step comprises setting the four high  
2 order bits to zero.

1 6. The method of claim 5, wherein the step of setting the four high order bits to  
2 zero comprises forming an AND result of the truncated key with binary 0000  
3 1111.

1 7. The method of claim 1, further comprising decrypting the encrypted data set by  
2 forming an inverse exclusive-OR result of the encrypted data set with masked key.

1 8. The method of claim 1, wherein the forming step yields an encrypted data set  
2 that is entirely within the ASCII printable range.

1 9. The method of claim 1, wherein the step of formatting a key comprises:  
2 providing a second data set having a second length;  
3 replicating the second data set as necessary until its length is equal to or  
4 greater than the first length; and  
5 truncating the second data set as necessary until its length equals the first  
6 length.

1 10. A method for processing a data set, comprising the steps of:  
2 providing a data set having a first length that includes at least four low  
3 order bits;  
4 providing a key having a second length;  
5 formatting the key to equal the first length; and  
6 performing a logical operation on the four low order bits of the data set  
7 with a corresponding four low order bits of the formatted key.

1 11. The method of claim 10, further comprising the step of replacing the four low  
2 order bits of the data set with results of the logical operation.

1 12. The method of claim 10, wherein the first length further includes four high  
2 order bits.

1 13. The method of claim 12, further comprising the step of setting the four high  
2 order bits of the key to zero, prior to the forming step.

1 14. The method of claim 13, wherein the setting step comprises forming an AND  
2 result of the formatted key with binary 0000 1111.

1 15. The method of claim 10, further comprising the step of performing an inverse  
2 logical operation on four low order bits of the encrypted data set with the four low  
3 order bits of the formatted key to yield a decrypted data set.

1 16. The method of claim 10, wherein the step of providing a key comprises:  
2 providing a second data set having a second length;  
3 formatting the key to the first length.

1 17. The method of claim 10, wherein the forming step yields an encrypted data set  
2 that is entirely within the ASCII printable range.

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1 18. A system for processing a data set having a first length, comprising:  
2 a system for formatting a key to the first length;  
3 a system for setting pre-determined bits of the key to zero to yield a  
4 masked key; and  
5 a system for forming an exclusive-OR result of the data set with the  
6 masked key to yield an encrypted data set.

1 19. The system of claim 18, wherein the system for setting pre-determined bits of  
2 the key to zero includes a system for forming an AND result of the formatted key  
3 with binary 0000 1111.

1 20. The system of claim 18, wherein the system for formatting comprises:  
2 a system for providing a second data set;  
3 a system for replicating the second data set as necessary until its length is  
4 equal to or greater than the first length; and  
5 a system truncating the second data set as necessary until its length equals  
6 the first length.

1 21. The system of claim 18, wherein the first length comprises four bits high order  
2 bits and four low order bits.

1 22. The system of claim 21, wherein the pre-determined bits set to zero are the  
2 four high order bits.

1 23. The system of claim 21, wherein the system for forming yields an encrypted  
2 data set wherein only the four low order bits are encrypted.

1 24. The system of claim 21, further comprising a system for replacing the four low  
2 order bits of the data set with the determined exclusive-OR result.

1 25. The system of claim 18, further comprising a system for decrypting the  
2 encrypted data set by forming an inverse exclusive-OR result of the encrypted data  
3 set with the masked key.

1 26. The system of claim 18, wherein the encrypted data set is entirely within the  
2 ASCII printable range.

1 27. A system for processing a data set, comprising:

2 a data set having a first length that includes at least four low order bits;

3 a key having a second length;

4 a system for formatting the key to equal the first length; and

5 a system for forming an exclusive-OR result of the four low order bits of  
6 the data set with a corresponding four low order bits of the formatted key to yield  
7 an encrypted data set.

1 28. The system of claim 27, wherein the encrypted data set is entirely within the  
2 ASCII printable range.

1 29. A program product stored on a recordable media for processing a data set  
2 having a first length, which when executed, comprises:  
3 a system for formatting a key to the first length;  
4 a system for setting pre-determined bits of the key to zero to yield a  
5 masked key; and  
6 a system for forming an exclusive-OR result of the data set with the  
7 masked key to yield an encrypted data set.

1 30. The program product of claim 29, wherein the system for setting pre-  
2 determined bits of the key to zero includes a system for forming an AND result of  
3 the formatted key with binary 0000 1111.

1 31. The program product of claim 29, wherein the system for formatting  
2 comprises:  
3 a system for providing a second data set;  
4 a system for replicating the second data set as necessary until its length is  
5 equal to or greater than the first length; and  
6 a system for truncating the second data set as necessary until its length  
7 equals the first length.

1 32. The program product of claim 29, wherein the first length comprises four bits  
2 high order bits and four low order bits.



1 33. The program product of claim 32, wherein the pre-determined bits set to zero  
2 are the four high order bits.

1 34. The program product of claim 32, wherein the system for forming yields an  
2 encrypted data set wherein only the four low order bits are encrypted.

1 35. The program product of claim 29, further comprising a system for replacing  
2 the four low order bits of the data set with the determined exclusive-OR result.

1 36. The program product of claim 29, further comprising a system for decrypting  
2 the encrypted data set by forming an inverse exclusive-OR result of the encrypted  
3 data set with the masked key.

1 37. The program product of claim 29, wherein the encrypted data set is within the  
2 ASCII printable range.